CLAIMS:

1. Device for recording information by writing marks in a track on a record carrier via a beam of radiation, the device comprising

- a head for providing the beam,
- radiation control means for controlling the beam to write the marks in a selected part of the track, the marks having a main mark intensity and a mark length within a predefined range of mark lengths, and
- secondary radiation control means for controlling the beam to write secondary marks in the same selected part of the track, the secondary marks having a secondary mark intensity that is substantially different from the main mark intensity and a length substantially longer than mark lengths in the predefined range.

2. Device as claimed in claim 1, wherein the secondary radiation control means are adapted for controlling the beam to write only secondary marks in the selected part of the track.

3. Device as claimed in claim 1, wherein the secondary radiation control means are adapted for controlling the beam to write a combination of the marks and the secondary marks during said recording of information.

4. Device as claimed in claim 3, wherein the secondary radiation control means are adapted for controlling the beam to create the combination of the marks in which marks located at an area of track having a secondary mark, have a main mark intensity different from the main mark intensity of marks located at an area of the track not having a secondary mark, in particular the difference being such that in a scanning signal a level difference between marks and intermediate spaces is substantially equal at both areas of the track.

5. Device as claimed in claim 1, wherein the secondary radiation control means are arranged for writing the secondary marks by controlling a writing power of the radiation

of the beam to secondary level that is substantially lower than a writing power for writing the marks.

6. Device as claimed in claim 1, wherein the secondary radiation control means are arranged for writing the secondary marks by controlling the shape of the beam, in particular by an adjustable optical element.

7. Record carrier carrying information represented by marks in a track, the marks in at least a part of the track having a main mark intensity and a mark length within a predefined range of mark lengths, and the same part of the track further comprising secondary marks having a secondary mark intensity that is substantially different from the main mark intensity, and the secondary marks having a length substantially longer than mark lengths in the predefined range.

8. Record carrier as claimed in claim 7, wherein said different secondary mark intensity is constituted by the secondary marks being effectively narrower than the marks.

9. Method of recording information by writing marks in a track on a record carrier via a beam of radiation, the method comprising the steps of

- controlling the beam to write the marks in a selected part of the track, the marks having a main mark intensity and mark lengths within a predefined range of mark lengths, and
- controlling the beam to write secondary marks in the same selected part of the track, the secondary marks having a secondary mark intensity that is substantially different from the main mark intensity and a length substantially longer than mark lengths in the predefined range.

10. Method as claimed in claim 9, wherein said controlling writing the marks is performed at a first instance in time and writing the secondary marks is performed at a different instance in time during two separate scans of the selected part of the track.

11. Device for reading information represented by marks and additional information represented by secondary marks from a track on a record carrier via a beam of radiation, the marks having a main mark intensity and mark lengths within a predefined range of mark lengths, the secondary marks having a secondary mark intensity that is substantially

different from the main mark intensity and a length outside the predefined range of mark lengths, and the marks and the secondary marks being in the same selected part of the track, the device comprising

- a head for providing the beam,
- a front-end unit for generating a scanning signal for detecting marks and secondary marks during said scanning, and
- a read processing unit for retrieving the information from the scanning signal, and
- a secondary read unit for retrieving additional information encoded in the secondary marks from the scanning signal.